## CLAIMS

I claim:

1.An apparatus comprising

an optical transmitter;

an optical receiver; and

a pen shaped housing in which the optical transmitter and the optical receiver are located.

2. The apparatus of claim 1 further comprising

a processor;

wherein the optical transmitter sends out optical signals toward a surface and the optical receiver receives the optical signals reflected off of the surface; and

wherein the processor processes the optical signals received by the optical receiver to determine the location of the pen shaped housing.

3. The apparatus of claim 2 wherein

the processor processes the optical signals received by the optical receiver to determine the location and movement of the pen shaped housing.

4. The apparatus of claim 1 further comprising

a processor;

wherein the optical transmitter sends out optical signals toward a surface and the optical receiver receives the optical signals reflected off of the surface; and

wherein the processor processes the optical signals received by the optical receiver to

determine the movement of the pen shaped housing.

5. The apparatus of claim 2 further comprising

a tip;

wherein the optical transmitter sends out optical signals towards an area near the tip, and the optical receiver receives optical signals reflected off an area near the tip.

6. The apparatus of claim 5 wherein

the tip is centered at one end of the pen shaped housing.

7. The apparatus of claim 5 wherein

the tip is asymmetrically located at one end of the pen shaped housing.

8. The apparatus of claim 2 further comprising

a wireless transmitter;

wherein the wireless transmitter transmits wireless signals specifying the location of the pen shaped housing based on the received optical signals processed by the processor.

9. The apparatus of claim 2 further comprising

a wireless transmitter; and

wherein the wireless transmitter transmits wireless signals specifying the movement of the pen shaped housing based on the received optical signals processed by the processor.

10. The apparatus of claim 9 further comprising

a wireless modulator; and

wherein the wireless modulator supplies the wireless signals to the wireless transmitter based on the received optical signals processed by the processor.

11. The apparatus of claim 1 wherein

the pen shaped housing has a tip which is closed.

12. The apparatus of claim 11 wherein

the pen shaped housing includes a heat release window.

13. The apparatus of claim 11 wherein

the tip is transparent.

14. The apparatus of claim 1 wherein

the pen shaped housing has a tip which is partially transparent and partially opaque.

15. The apparatus of claim 1 further comprising

a first ball having a surface; wherein the optical transmitter sends out optical signals toward a surface of the first ball and the optical receiver receives the optical signals reflected off of the surface of the first ball; and

wherein the processor processes the optical signals received by the optical receiver to determine the movement of the pen shaped housing.

16. The apparatus of claim 15 wherein

the surface of the first ball has coding on it;

the pen shaped housing has a pen tip; and

wherein the coding allows the processor to distinguish images reflected off of the surface when the pen tip is moving.

17. The apparatus of claim 1 further comprising

a plurality of balls located inside of the pen shaped housing.

18. A method comprising

sending out optical signals toward a surface;

receiving the optical signals reflected off of the surface; and

processing the optical signals received to determine the location of a pen shaped housing.

19. The method of claim 18 further comprising

sending out optical signals towards an area near a tip of the pen shaped housing; and

receiving optical signals reflected off an area near the tip of the pen shaped housing.

20. The method of claim 19 wherein

the tip is centered at one end of the pen shaped housing.

21. The method of claim 20 further comprising

transmitting wireless signals specifying the location of the pen shaped housing based on the received optical signals.

22. The method of claim 21 further comprising

modulating the received optical signals; and

supplying the wireless signals to the wireless transmitter based on the modulated received optical signals.

23. The method of claim 18 wherein

the pen shaped housing has a tip which is closed.

24. The method of claim 18 wherein

the pen shaped housing includes a heat release window.

25. The method of claim 23 wherein

the tip is transparent.

26. The method of claim 18 wherein

the pen shaped housing has a tip which is partially transparent and partially opaque.

27. The method of claim 18 wherein

the surface is part of a first ball.

28. An apparatus comprising

a first gear;

a disc having a first hole;

an optical transmitter;

an optical receiver; and

a first ball;

and wherein when the first ball rotates, the first ball causes the first gear to rotate which causes the disc to move, which causes light from the optical transmitter to be passed through the first hole of the disc and to be received by the optical receiver.